

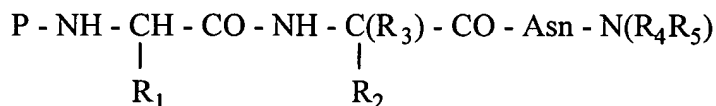
## ATTACHMENT B

### Amendments to the Claims

Please cancel claims 26-28 without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A pseudopeptide having general formula I



wherein:

P denotes a protecting group or a hydrogen atom,

R<sub>1</sub> denotes:

a phenylmethyl radical wherein the phenyl nucleus is substituted in the para position by -OPO<sub>3</sub>H<sub>2</sub>, phosphonomethyl, phosphonomonofluoromethyl or phosphonodifluoromethyl radical or

a ~~naphthylemethyl~~ naphthylmethyl radical which may be substituted in the 4 position by -OPO<sub>3</sub>H<sub>2</sub>, phosphonomethyl, phosphonomono- or phosphonodifluoromethyl radical, each of these radicals also being optionally substituted by one or more substituents selected from among the C<sub>1</sub> to C<sub>4</sub> alkyl or C<sub>1</sub> to C<sub>4</sub> alkoxy groups and/or one or more halogen atoms,

R<sub>2</sub> denotes:

a phenylmethyl or ~~naphthylemethyl~~ naphthylmethyl or cyclohexylmethyl radical, 2- or 3-pyridinylmethyl, substituted at the para or meta position of the ring

by  $-OPO_3H_2$ ,  $C_1$  to  $C_2$  phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl,  $-OPO_3H_2-PO_3H_2$ , phosphinate,  $-Se_3H-SO_3H$  sulfonomethyl,  $-CO_2H$ , carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolymethyl radical or a radical alkyl of the type  $(CH_2)_n$  (wherein  $n = 3$  or  $4$ ) substituted in end position by a  $-OPO_3H_2$ ,  $C_1$  to  $C_2$  phosphonoalkyl, preferably phosphonomonofluoromethyl and phosphonodifluoromethyl, phosphonate, phosphinate, sulfonate, sulfonomethyl, carboxylate, carboxymethyl, carboxymethyloxy, malonyl, 2-malonyloxy, 2-dicarboxyethyl, 5-tetrazolyl or 5-tetrazolymethyl radical,

$R_3$  denotes a straight chain or branched  $C_1$  to  $C_4$  alkyl group or an alkylcycloalkyl group having a  $C_3$  to  $C_6$  cycloalkyl,

$R_4$  and/or  $R_5$  denote:

- a hydrogen,
- a straight chain or branched  $C_1$  to  $C_6$  alkyl group
- a  $C_1$  to  $C_6$  arylalkyl group wherein aryl denotes a phenyl or naphthyl nucleus optionally substituted by one or more hydroxyl groups, or
- an aminohexanoic chain followed by the sequences

RQIKIWFQNRRMKWKK (SEQ ID NO: 1), IRQPKIWFPNRRKPWKK (SEQ ID NO: 2), Cys-S-S-Cys-RQIKIWFQNRRMKWKK (SEQ ID NO: 3) and Cys-S-S-Cys-IRQPKIWFPNRRKPWKK (SEQ ID NO: 4) derived from Antennapedia or pharmaceutically acceptable salts thereof.

2. (Currently Amended) The ~~pseudo~~peptide pseudopeptide according to claim 1, wherein:

P denotes an RCO or ROCO group where R denotes a C<sub>1-4</sub> aminoalkyl or C<sub>1-4</sub> aminophenylalkyl,

R<sub>1</sub> denotes a phenylmethyl group substituted in the para position by a substituent selected from among OPO<sub>3</sub>H<sub>2</sub>, CH<sub>2</sub>PO<sub>3</sub>H<sub>2</sub>, CHFPO<sub>3</sub>H<sub>2</sub> and CF<sub>2</sub>PO<sub>3</sub>H<sub>2</sub>,

R<sub>2</sub> denotes a phenylmethyl group substituted in the meta or para position by -OPO<sub>3</sub> H<sub>2</sub>, C<sub>1</sub> to C<sub>2</sub> phosphonoalkyl group, phosphonomonofluoromethyl, phosphonodifluoromethyl, phosphonate, phosphinate, -SO<sub>3</sub>H, sulfonomethyl, -CO<sub>2</sub>H, carboxymethyl, carboxymethyloxy, malonyl, 2-(dicarboxy)ethyl, 2-malonyloxy, 5-tetrazolyl or 5-tetrazolylmethyl radical,

R<sub>3</sub> denotes a C<sub>1</sub> to C<sub>4</sub> alkyl group,

R<sub>4</sub> and/or R<sub>5</sub> denote a hydrogen atom, an alkyl (CH<sub>2</sub>)<sub>n</sub>-CH<sub>3</sub> or (CH<sub>2</sub>)<sub>n</sub>-Ar group wherein Ar denotes a phenyl or α or β-naphthyl which may or may not be substituted and n is between 0 and 5 and pharmaceutically acceptable salts thereof.

3. (Previously Presented) The pseudopeptide according to claim 1, wherein:

R<sub>1</sub> denotes a phenylmethyl group having -OPO<sub>3</sub> H<sub>2</sub> group in the para-position,

R<sub>2</sub> denotes a phenylmethyl group having, in the para- or meta-position, a group selected from the group consisting of a phosphate, phosphonomethyl, 2-malonyloxy or (CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>H group wherein n is equal to 0 or 1,

R<sub>3</sub> denotes a C<sub>1</sub>-C<sub>4</sub> alkyl group, and

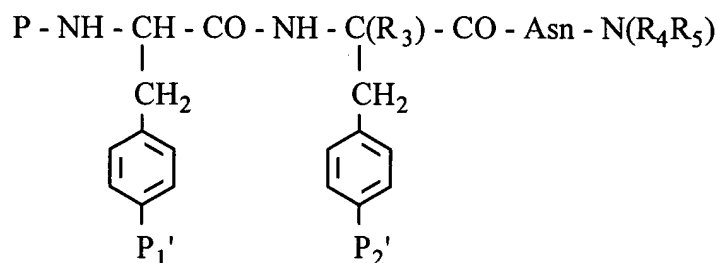
R<sub>4</sub> and R<sub>5</sub> both represent a hydrogen atom and the pharmaceutically acceptable salts thereof.

4. (Previously Presented) The pseudopeptide according to claim 1 selected from the group consisting of:

- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(CH<sub>2</sub>-COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)F<sub>2</sub>Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe (PO<sub>3</sub> H<sub>2</sub>)-Asn-Aha-Antennapedia.

5-21. (Cancelled)

22. (Previously Presented) A pseudopeptide compound corresponding to general formula II



II

wherein:

P denotes a protecting group or a hydrogen atom,

R<sub>3</sub> denotes a straight chain or branched C<sub>1</sub> to C<sub>4</sub> alkyl group or an alkylcycloalkyl group having a C<sub>3</sub> to C<sub>6</sub> cycloalkyl,

R<sub>4</sub> and/or R<sub>5</sub> denote

a hydrogen,

a straight chain or branched C<sub>1</sub> to C<sub>6</sub> alkyl group

a C<sub>1</sub> to C<sub>6</sub> arylalkyl group wherein aryl denotes a phenyl or naphthyl nucleus

optionally substituted by one or more hydroxyl groups, or

an aminohexanoic chain followed by the sequences RQIKIWFQNRRMKWKK

(SEQ ID NO: 1), IRQPKIWFPNRRKPWKK (SEQ ID NO: 2, Cys-S-S-Cys-

RQIKIWFQNRRMKWKK (SEQ ID NO: 3) and Cys-S-S-Cys-

IRQPKIWFPNRRKPWKK (SEQ ID NO: 4), derived from Antennapedia,

P<sub>1</sub>' is mono or bis-(S-acyl-2-thioethyl) phosphate and/or mono or bis-

(acyloxymethyl) phosphate group wherein the term acyl denotes a tert-butylcarbonyl or isopropylcarbonyl or acetyl group; or

mono is bis-(s-acyl-2-thioethyl) phosphate and/or mono or bis-(acyloxymethyl) phosphate group wherein the term acyl denotes a tert-butylcarbonyl or isopropylcarbonyl or acetyl group; or

P<sub>2</sub>' is mono or bis-(S-acyl-2-thioethyl) phosphate and/or mono or bis-(acyloxymethyl) phosphonomethyl groups wherein the term acyl denotes a tert-butylcarbonyl or isopropylcarbonyl or acetyl group; or

mono or bis-(S-acyl-2-thioethyl) phosphonomethyl and/or mono or bis-(acyloxymethyl) phosphonomethyl groups wherein the term acyl denotes a tert-butylcarbonyl or isopropylcarbonyl or acetyl group,

mono or bis-(S-acyl-2-thioethyl) phosphonate and/or mono or bis-(acyloxymethyl) phosphonate group wherein the term acyl denotes a tert-butylcarbonyl or isopropylcarbonyl or acetyl group, or

in the form of a carbonxylate of:

arylalkyl where the term aryl denotes a benzene nucleus and the term alkyl denotes a straight or branched carbon chain having 1 to 3 carbon atoms;

morpholinyl alkyl – (CH<sub>2</sub>)<sub>n</sub> (NC<sub>4</sub>H<sub>8</sub>O);

piperidinyl alkyl –(CH<sub>2</sub>)<sub>n</sub>(NC<sub>5</sub>H<sub>10</sub>) optionally substituted by and OH, CO<sub>2</sub>H, CO<sub>2</sub>R' where R' is a straight or branched alkyl chain which may or may not contain a benzyl or phenyl group;

piperazinylalkyl – (CH<sub>2</sub>)<sub>n</sub>(NC<sub>4</sub>H<sub>8</sub>NH) optionally substituted by (-N-C<sub>4</sub>H<sub>8</sub>-NR'') where R'' denotes an alkyl chain containing 1 to 6 carbon atoms, a benzyl group or a phenyl group, wherein n is between 1 and 3.

23. (Currently Amended) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 1, ~~in an amount effective to inhibit proliferation of tumor cells.~~

24. (Currently Amended) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 1, selected from the group consisting of :

- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(G<sub>2</sub>-COOH)(CH<sub>2</sub>-COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)F<sub>2</sub>Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)-Asn-Aha-Antennapedia.

25. (Currently Amended) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 22, ~~in an amount effective to inhibit proliferation of tumor cells.~~

26-28. (Canceled)

29. (New) A method for binding Grb2 comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 1.
30. (New) A method of inhibiting activation of Ras comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 1.
31. (New) A method of treating breast cancer comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 1.
32. (New) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 1, in an amount effective to bind to Grb2.
33. (New) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 1, in an amount effective to inhibit Ras activity.
34. (New) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 1, in an amount effective to treat breast cancer.
35. (New) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 22, in an amount effective to bind to Grb2.
36. (New) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 22, in an amount effective to inhibit Ras activity.



37. (New) A composition comprising a pharmaceutically acceptable carrier, and a pseudopeptide according to claim 22, in an amount effective to treat breast cancer.

38. (New) A method for binding Grb2 comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 1, selected from the group consisting of:

- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(CH<sub>2</sub>-COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)F<sub>2</sub>Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)-Asn-Aha-Antennapedia.

39. (New) A method of inhibiting Ras activity comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 1, selected from the group consisting of:

- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>

- mAZ-pTyr-( $\alpha$ Me)Phe(COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(CH<sub>2</sub>-COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)F<sub>2</sub>Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)-Asn-Aha-Antennapedia.

40. (New) A method of treating breast cancer comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 1, selected from the group consisting of:

- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)pTyr-Asn-Aha-Antennapedia
- mAZ-Pmp-( $\alpha$ Me)pTyr-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(CH<sub>2</sub>-COOH)-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)F<sub>2</sub>Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)Pmp-Asn-NH<sub>2</sub>
- mAZ-pTyr-( $\alpha$ Me)Phe(PO<sub>3</sub>H<sub>2</sub>)-Asn-Aha-Antennapedia.

41. (New) A method for binding Grb2 comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 22.

42. (New) A method of inhibiting activation of Ras comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 22.

43. (New) A method of treating breast cancer comprising administering to a patient in need thereof an effective amount of a pseudopeptide according to claim 22.